

a back mold member having a casting face, a non-casting face and a back mold identification mark, the back mold member being spaced apart from the front mold member by a gasket during use, the gasket comprising a gasket identification marking, wherein the casting faces of the front mold member and the back mold member and an inner surface of the gasket at least partially define a mold cavity which defines a shape corresponding to an eyeglass lens prescription;

a coating unit for applying a coating to the eyeglass lens or mold members during use;

a lens curing unit configured to direct activating light toward the mold members during use; and

a controller comprising an input device for obtaining information from an user and an output device for transmitting information to the user, wherein the controller is configured to determine the front mold identification marking, the back mold identification marking and the gasket identification marking in response to the eyeglass lens prescription being entered through the input device, and wherein the controller is configured to transmit via the output device the front mold identification marking, the back mold identification marking and the gasket identification marking, and wherein the controller is configured to control the operation of the lens curing unit during use.

376. (amended) The apparatus of claim 375, further comprising a first filter disposed between the first light source and the front mold member, and a second filter disposed between the second light source and the back mold member, the first and second filters being configured to diffuse the activating light directed toward the mold members during use.

377. (amended) The apparatus of claim 376, wherein the first and second filters are configured to thermally isolate the first and second light sources from the lens curing chamber.

378. (amended) The system of claim 375, further comprising a first thermal barrier disposed between the first light source and the first mold member, and a second thermal barrier disposed between the second light source and the second mold member.

379. (amended) The apparatus of claim 375, wherein the first and second light sources comprise fluorescent light sources configured to emit light at a wavelength of about 385 nanometers to about 490 nanometers.

388. (amended) The controller of claim 366, wherein the lens curing unit comprises a first light source and a second light source, and wherein the controller is configured to individually control the first and second light sources.

Please enter the following claims.

443. (new) The controller of claim 366, wherein the gasket comprises at least four discrete projections for spacing mold members of a mold set, and wherein the projections are arranged on an interior surface of the gasket.

444. (new) The controller of claim 366, wherein the gasket comprises at least four discrete projections for spacing mold members of a mold set, and wherein the projections are arranged on an interior surface of the gasket and wherein the at least four discrete projections are evenly spaced around the interior surface of the gasket.

445. (new) The controller of claim 366, wherein the gasket comprises at least four discrete projections for spacing mold members of a mold set, and wherein the projections are arranged on an interior surface of the gasket and wherein the at least four discrete projections are spaced at about 90 degree increments around the interior surface of the gasket.

446. (new) The controller of claim 366, wherein the gasket is configured to engage a second mold set for forming a second lens of a second power.
447. (new) The controller of claim 366, wherein the gasket comprises a fill port for receiving a lens forming composition while the gasket is fully engaged to a mold set.
448. (new) The controller of claim 366, wherein the gasket comprises an interior surface, an exterior surface and a fill port for receiving a lens forming composition while the gasket is fully engaged to a mold set and wherein the fill port extends from the interior surface of the gasket to the exterior surface.
449. (new) The controller of claim 366, wherein the lens forming apparatus further comprises a coating unit and wherein the controller is configured to simultaneously control operation of the coating unit and the lens curing unit during use.
450. (new) An apparatus for preparing an eyeglass lens, comprising:
- a mold assembly comprising a first mold member and a second mold member, wherein at least one of the first and second mold members comprise an identification mark;
  - a coating unit for applying a coating to an eyeglass lens or mold member during use;
  - a lens curing unit configured to direct activating light toward the mold assembly during use; and
  - a controller, wherein the controller is configured to determine the identification marking of the first or second mold member based on a prescription for the eyeglass lens, and wherein the controller is configured to control the operation of the lens curing unit during use.

451. (new) The apparatus of claim 450, wherein each of the first and second mold members have an identification mark

452. (new) The apparatus of claim 450, wherein the apparatus is configured to form non-photochromic lenses and photochromic lenses.

453. (new) The apparatus of claim 450, wherein the apparatus is configured to form an aspheric single vision lens, a flat-top bifocal lens or a progressive multifocal lens.

454. (new) The apparatus of claim 450, wherein the apparatus is configured to substantially simultaneously apply a coating to an eyeglass lens disposed within the coating unit and direct activating light and heat toward mold members disposed within the lens curing unit.

455. (new) The apparatus of claim 450, wherein the coating unit is a spin coating unit.

456. (new) The apparatus of claim 450, wherein the coating unit comprises:

a holder for holding the eyeglass lens or at least one of the mold members, wherein the holder is configured to revolve during use; and

a coating unit activating light source configured to direct activating light towards the coating unit during use.

457. (new) The apparatus of claim 450, wherein the coating unit comprises:

a holder for holding the eyeglass lens or at least one of the mold members, wherein the holder is configured to revolve during use; and

a coating unit activating light source configured to produce and direct activating light towards the coating unit during use, and wherein the coating unit activating light source is an ultraviolet light source.

458. (new) The apparatus of claim 450, wherein the coating unit comprises:

a holder for holding the eyeglass lens or at least one of the mold members, wherein the holder is configured to revolve during use; and

a coating unit activating light source configured to produce and direct activating light towards the coating unit during use; and wherein the coating unit activating light source has a peak light intensity at a range of about 200 nm to about 300 nm.

459. (new) The apparatus of claim 450, wherein the coating unit comprises:

a holder for holding the eyeglass lens or at least one of the mold members, wherein the holder is configured to revolve during use; and

a coating unit activating light source configured to produce and direct activating light towards the coating unit during use; and

a cover for covering the coating unit, and wherein the coating unit activating light source is positioned on an inner surface of the cover.

460. (new) The apparatus of claim 450, wherein the lens curing unit comprises a first light source configured to generate and direct activating light toward the first mold member, and wherein the lens curing unit further comprises a second light source configured to generate and direct activating light toward the second mold member.

461. (new) The apparatus of claim 450, wherein the lens curing unit comprises:

a first activating light source, wherein the first activating light source is configured to produce activating light directed toward a mold assembly during use;

a second activating light source, wherein the first activating light source is configured to produce activating light directed toward a mold assembly during use;

a first filter disposed between the first light source and the first mold member; wherein first filter is configured to manipulate the intensity of the activating light emanating from the first activating light source; and

a second filter disposed between the second light source and the second mold member, wherein second filter is configured to manipulate the intensity of the activating light emanating from the second activating light source.

462. (new) The apparatus of claim 450, wherein the lens curing unit comprises:

a first activating light source, wherein the first activating light source is configured to produce activating light directed toward a mold assembly during use;

a second activating light source, wherein the first activating light source is configured to produce activating light directed toward a mold assembly during use;

a first filter disposed between the first light source and the first mold member; wherein first filter is configured to manipulate the intensity of the activating light emanating from the first activating light source;

a second filter disposed between the second light source and the second mold member, wherein second filter is configured to manipulate the intensity of the activating light emanating from the second activating light source; and

wherein the first and second filters are configured to thermally isolate the first and second activating light sources from the lens curing chamber.

463. (new) The apparatus of claim 450, wherein the lens curing unit comprises:

a first activating light source, wherein the first activating light source is configured to produce activating light directed toward a mold assembly during use;

a second activating light source, wherein the first activating light source is configured to produce activating light directed toward a mold assembly during use;

a first thermal barrier disposed between the first activating light source and the first mold member, and a second thermal barrier disposed between the second activating light source and the second mold member.

464. (new) The apparatus of claim 450, wherein the lens curing unit comprises:

a first activating light source, wherein the first activating light source is configured to produce activating light directed toward a mold assembly during use;

a second activating light source, wherein the first activating light source is configured to produce activating light directed toward a mold assembly during use; and

wherein the first and second light sources comprise fluorescent light sources configured to emit light at a wavelength of about 385 nanometers to about 490 nanometers.

465. (new) The apparatus of claim 450, wherein the lens curing unit comprises a lens drawer for positioning the mold members within the lens curing unit, the lens drawer being configurable to be inserted within and removed from an irradiation chamber of the lens curing unit.

466. (new) The apparatus of claim 450, wherein the lens curing unit comprises a heater, the heater configured to heat the interior of the lens curing unit to a temperature of up to about 250 °F.

467. (new) The apparatus of claim 450, wherein the lens curing unit comprises a conductive heating apparatus, the conductive heating apparatus being adapted to conductively apply heat to a face of at least one of the mold members during use.

468. (new) The apparatus of claim 450, wherein the controller is configured to adjust lens curing conditions based on the eyeglass prescription.

469. (new) The apparatus of claim 450, wherein the apparatus further comprises a light sensor configured to measure the dose of light transmitted to the mold cavity, and wherein the light sensor is configured to communicate with the controller, and wherein the controller varies the intensity or duration of light such that a predetermined dose is transmitted to the mold cavity.

470. (new) The apparatus of claim 450, wherein the lens curing unit comprises a first light source and a second light source, and wherein the control unit is configured to individually control the first and second light sources.

471. (new) The apparatus of claim 450, wherein the controller is configured to perform system diagnostic checks.

472. (new) The apparatus of claim 450, wherein the controller is configured to notify the user



when the system requires maintenance.

473. (new) The apparatus of claim 450, wherein the controller is configured to transmit instructions to an operator during use.

474. (new) The apparatus of claim 450, wherein the controller is configured to run a computer software program for determining the identification marking, and wherein the software program comprises a plurality of instructions configured to perform operations comprising:

- collecting prescription information, which defines the eyeglass prescription; and
- analyzing the prescription information to determine identification marking for producing the eyeglass lens.

475. (new) The apparatus of claim 450, wherein the controller is configured to run a computer software program for determining the identification marking, and wherein the software program comprises a plurality of instructions configured to perform operations comprising:

- collecting prescription information, which defines the eyeglass prescription; and
- analyzing the prescription information to determine identification marking for producing the eyeglass lens, wherein the prescription information comprises a sphere power, a cylinder power and a lens location, and wherein the prescription information is analyzed by correlating the sphere power, cylinder power and the lens location to an record in an information database.

476. (new) The apparatus of claim 450, wherein the controller is configured to run a computer software program for determining the identification marking, and wherein the software program comprises a plurality of instructions configured to perform operations comprising:

- collecting prescription information, which defines the eyeglass prescription; and
- analyzing the prescription information to determine identification marking for producing the eyeglass lens, and wherein the prescription information comprises a sphere power, a cylinder power, an add power, and a lens location and wherein the prescription

information is analyzed by correlating the sphere power, the cylinder power, the add power, and the lens location to a record in an information database.

477. (new) The apparatus of claim 450, wherein the controller is configured to run a computer software program for determining the identification marking, and wherein the software program comprises a plurality of instructions configured to perform operations comprising:

collecting prescription information, which defines the eyeglass prescription; and  
analyzing the prescription information to determine identification marking for producing the eyeglass lens, and wherein the prescription information further comprises monomer type and lens type.

478. (new) The apparatus of claim 450, wherein the controller is configured to run a computer software program for determining the identification marking, and wherein the software program comprises a plurality of instructions configured to perform operations comprising:

collecting prescription information, which defines the eyeglass prescription; and  
analyzing the prescription information to determine identification marking for producing the eyeglass lens, and wherein the mold identification marking comprises an alphanumeric sequence.

479. (new) The apparatus of claim 450, wherein the controller is configured to run a computer software program for determining the identification marking, and wherein the software program comprises a plurality of instructions configured to perform operations comprising:

collecting prescription information, which defines the eyeglass prescription; and analyzing the prescription information to determine identification marking for producing the eyeglass lens, and wherein the operations further comprise determining curing conditions for a lens based on the eyeglass prescription.